

Appl. No. 10/568,962
Amendment dated March 31, 2008
Reply to Office Action of November 6, 2007

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings include changes to Figures 12-14 to include "PRIOR ART". These replacement sheets, which include Figures 11-14, replace the original sheets that included Figures 11-14.

Attachment: three (3) replacement sheets

REMARKS

In the November 6, 2007 Office Action, the drawings were objected to and claims 1-11 stand rejected in view of prior art. No other objections or rejections were made in the Office Action.

Status of Claims and Amendments

In response to the November 6, 2007 Office Action, Applicant has amended claims 1 and 11. Also, Applicant has cancelled claim 5 and add new claim 12 as indicated above. Thus, claims 1-4 and 6-12 are now pending, with claims 1 and 12 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

Drawings

In paragraph 1 of the Office Action, the drawings were objected to as failing to comply with MPEP §608.02(g) and corrected drawings in compliance with 37 CFR §1.121(d) were require. In particular, Figures 12-14 were objected to for failing to include a legend such as "PRIOR ART". In the February 21, 2006 Preliminary Amendment, Applicant has already submitted the replacement drawings to add the "Prior Art" in Figures 12-14. However, in response to this objection, Applicant is resubmitting three (3) replacement sheets of drawings, which include Figures 11-14, including corrected Figures 12-14. Accordingly, withdrawal of this objection is respectfully requested.

Rejections - 35 U.S.C. § 102

In paragraphs 3-6 of the Office Action, claims 1-3 and 6-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,992,032 (Barito). In response, Applicant has amended independent claim 1 to more clearly define the present invention over the prior art of record.

In particular, independent claim 1 now requires, *inter alia*, the compression mechanism having a plurality of discharge ports configured for discharging fluid compressed in the cylinder chamber to an outside of the compression mechanism, and the pressing mechanism generating a pressing force in the axial direction, the pressing mechanism having a center that is outside a track with a radius of an eccentric amount of the eccentric rotation

body with respect to the center of the drive shaft and eccentric to the discharge ports away from a center of the cylinder side or piston side end plate of the eccentric rotation body.

Clearly, this structure is *not* disclosed or suggested by the Barito patent.

First, the present invention is directed to a compressor having a compression mechanism including a cylinder having a cylinder chamber, a piston accommodated in the cylinder chamber eccentrically with respect to the cylinder, and a blade arranged in the cylinder chamber and defining the cylinder chamber into a first chamber and a second chamber. The Barito patent is directed to a scroll compressor, which does not include such parts whatsoever.

Second, in a scroll compressor such as in the Barito patent, when a load on the wrap wall of the scroll is ignored, *buoyancy on the end plates moves on a circular track with a radius of half the eccentric amount around the rotation center of the main axis.* With such an arrangement, the track of buoyancy does not change substantially, even when the operating condition changes. Thus, the Barito patent fails to disclose or suggest a pressing mechanism having a center that is outside a track with a radius of an eccentric amount of the eccentric rotation body with respect to the center of the drive shaft and eccentric to the discharge ports away from a center of the cylinder side or piston side end plate of the eccentric rotation body, as required by independent claim 1, as now amended.

In other words, in the cylinder/piston compressor of independent claim 1, the center of buoyancy generated by difference pressure on the end plates moves in a range about between 180° and 360°, over the range of the track with a radius of the eccentric amount, when the direction toward the oscillation center (the upper side of the figure) with respect to the center of the drive shaft (33) is set 0°. This type of compressor has larger buoyancy fluctuation than a scroll compressor. The maximum buoyancy is generated in a range between 270° and 360°, outside the track with a radius of the eccentric amount. The range coincides with the range in which the discharge ports (45, 46) exist with respect to the drive shaft (33). Different from in a scroll compressor, the genesis location of this track of buoyancy changes in accordance with high-low fluctuation in pressure caused by the operating condition, but the above angle range does not change. Accordingly, in the presently claimed compressor, the center of a pressing force in the axial direction is set outside the track with a radius of the eccentric amount of the eccentric rotation body (21, 22) with respect to the center of the drive shaft (33) and eccentric to the discharge ports (45, 46)

away from the center of the end plates (26A, 26B) of the eccentric rotation body, as best understood from Figure 2 of the instant application. None of references disclose or suggest setting the center of a pressing force in the axial direction outside the track with a radius of the eccentric amount of the eccentric rotation body with respect to the center of the drive shaft and eccentric to the discharge ports away from the center of the end plates of the eccentric rotation body.

Accordingly, independent claim 1 and its dependent claims 2, 3 and 6-11 cannot be anticipated by the Barito patent or any other prior art of record. It is well settled under U.S. patent law that for a reference to anticipate a claim, the reference must disclose each and every element of the claim within the reference. Therefore, Applicant respectfully submits that claim 1, as now amended, as well as dependent claims 2, 3 and 6-11 are not anticipated by the prior art of record. Accordingly, withdrawal of this rejection is respectfully requested.

Rejections - 35 U.S.C. § 103

In paragraphs 8 and 9 of the Office Action, claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Barito patent in view of U.S. Patent No. 2,073,101 (Fox). In response, Applicant has amended independent claim 1 to more clearly define the present invention over the prior art of record as explained above, and cancelled claim 5.

In particular, independent claim 1 now requires, *inter alia*, the compression mechanism having a plurality of discharge ports configured for discharging fluid compressed in the cylinder chamber to an outside of the compression mechanism, and the pressing mechanism generating a pressing force in the axial direction, the pressing mechanism having a center that is outside a track with a radius of an eccentric amount of the eccentric rotation body with respect to the center of the drive shaft and eccentric to the discharge ports away from a center of the cylinder side or piston side end plate of the eccentric rotation body. Clearly this arrangement is **not** disclosed or suggested by the Barito patent and/or the Fox patent, whether taken alone or in combination.

As explained above, the Barito patent fails to disclose or suggest a pressing mechanism having a center that is outside a track with a radius of an eccentric amount of the eccentric rotation body with respect to the center of the drive shaft and eccentric to the discharge ports away from a center of the cylinder side or piston side end plate of the

eccentric rotation body, as required by independent claim 1, as now amended. The Fox patent fails to account for the deficiencies of the Barito patent with respect to independent claim 1. Specifically, the Fox patent fails to disclose a pressing mechanism as claimed whatsoever. In fact, the Office Action merely relies on the Fox patent to disclose a piston/cylinder arrangement with a c-shaped piston utilizing a swing bus. Accordingly, even if these references were somehow combined as suggested in the Office Action, the hypothetical device created by such a hypothetical combination would not include all of the features of independent claim 1, as now amended. Since this hypothetical combination fails to disclose or suggest the unique arrangement of independent claim 1, this hypothetical combination cannot disclose or suggest the arrangement of dependent claim 4, which depends from independent claim 1. Accordingly, withdrawal of this rejection is respectfully requested.

New Claim

Applicant has added new independent claim 12 by the current Amendment. New independent claim 12 corresponds to previous claim 8. Thus, new independent claim 12 requires, *inter alia*, ***the cylinder having a slit that is formed at a portion eccentric from a center of the eccentric rotation body in a face portion opposite a face on a cylinder chamber side of the cylinder side end plate of the eccentric rotation body, the pressing mechanism allowing pressure of fluid discharged outside the compression mechanism to work on the slit.*** Contrary to the assertions of the Office Action, this arrangement is *not* disclosed or suggested by the Barito patent.

First, the present invention is directed to a compressor having a compression mechanism including a cylinder having a cylinder chamber, a piston accommodated in the cylinder chamber eccentrically with respect to the cylinder, and a blade arranged in the cylinder chamber and defining the cylinder chamber into a first chamber and a second chamber. The Barito patent is directed to a scroll compressor, which does not include such parts whatsoever.

Second, the Office Action indicates (in paragraph 5, page 4) that the Barito patent discloses a slit 16-2 as set forth in the claim. Applicant disagrees. The groove 16-2 is formed in the crankcase 30, *not* the cylinder as claimed. Moreover, because the groove 16-2 in the Barito patent is located between the grooves 16-1 and 16-3, the Barito patent *cannot* disclose

a pressing mechanism that allows pressure of fluid discharged outside the compression mechanism to work on the groove 16-2, i.e., because the groove 16-2 does not fluidly communicate with such fluid due the presence of the grooves 16-1 and 16-3 with seals disposed therein. While the Barito patent does disclose one groove 10-9 formed in the orbiting scroll 10', this groove 10-9 is again disposed between the grooves 16-1 and 16-3 with seals disposed therein as seen in Figure 4. Thus, the Barito patent *cannot* disclose a pressing mechanism that allows pressure of fluid discharged outside the compression mechanism to work on the groove 10-9, i.e., because the groove 10-9 does not fluidly communicate with such fluid due the presence of the grooves 16-1 and 16-3 with seals disposed therein. The Fox patent does not account for the deficiencies of the Barito patent with respect to new claim 12. Accordingly, allowance of new claim 12 is requested.

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In view of the foregoing amendment and comments, Applicant respectfully asserts that claims 1-4 and 6-12 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested. If there are any questions regarding this Amendment, please feel free to contact the undersigned.

Respectfully submitted,

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